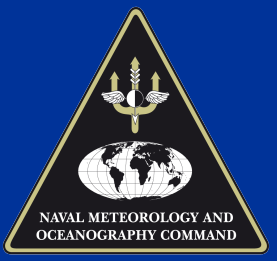
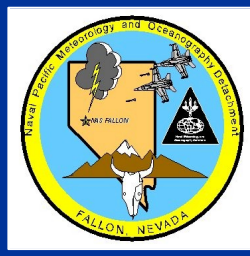




SAFETY REVIEW FOR ACTIVITIES PROVIDING AVIATION WEATHER SUPPORT

Prepared by : LCDR Cantu,, AGCS (AW/SW) McDonnell, and AGC(AW/SW) Brouillette

CNMOC Aviation WX Support Safety Review

In accordance with CNMOC correspondence…

"Recent incidents indicate a need for a thorough review of our aviation weather monitoring, dissemination and briefing support. Accordingly, all NAVMETOCCOM activities providing aviation weather support are directed to conduct a one day safety review no later than 30 June 2004."

TOPICS TO BE COVERED

- SIGNIFICANCE OF ACCURATE WEATHER OBSERVATIONS
- LOCAL FIELD MINIMUMS
- WEATHER WARNINGS
- APPLICABLE PORTIONS OF OPNAV 3710.7T
- PROCEDURES FOR AIRCRAFT MISHAP
- ENTRIES ON DD175-1 W/ EMPHASIS ON FLIGHT HAZARDS
- DATA SOURCES AVAILABLE

Slide prepared by NLMOF Jacks

SIGNIFICANCE OF ACCURATE OBSERVATIONS

- Accurate and timely submission of observations are vital for safety of flight.
- Used in the development of Oceanographic & Meteorological forecasts and tactical indices used in support of fleet ops.
- Input for forecasting models.
- Quality Control – used to improve accuracy of weather observations.

Significance of Accurate Observations

- Prior to assuming full responsibility for taking official WX observations, observers shall be certified IAW NAVMETOCCOMINST 1500.2H

- Observers are expected to be alert to meteorological situations conducive to significant changes in weather conditions and to make and disseminate weather reports as rapidly as feasible whenever changes are noted that meet criteria for SPECI's.

- Diligence and attention to detail are paramount in the taking, recording and disseminating of weather observations. Whether at war or in peace, incorrect data collection can and will result in death and high cost aircraft incidents. In addition, if gross negligence on the observers part directly resulted in such an incident, that person could be charged with several articles of the UCMJ resulting in (but not limited to) loss of rank, discharge from service, and/or incarceration.

Weather Elements Most Critical to Aviation

Elements with the greatest rate of change are evaluated last. However, pressure is the very last element recorded on the observation form.

- Pressure
- Present Weather
- Visibility
- Temperature / Dew Point (especially for rotary-wing aircraft)
- Low cloud heights (and convective clouds)
- Wind

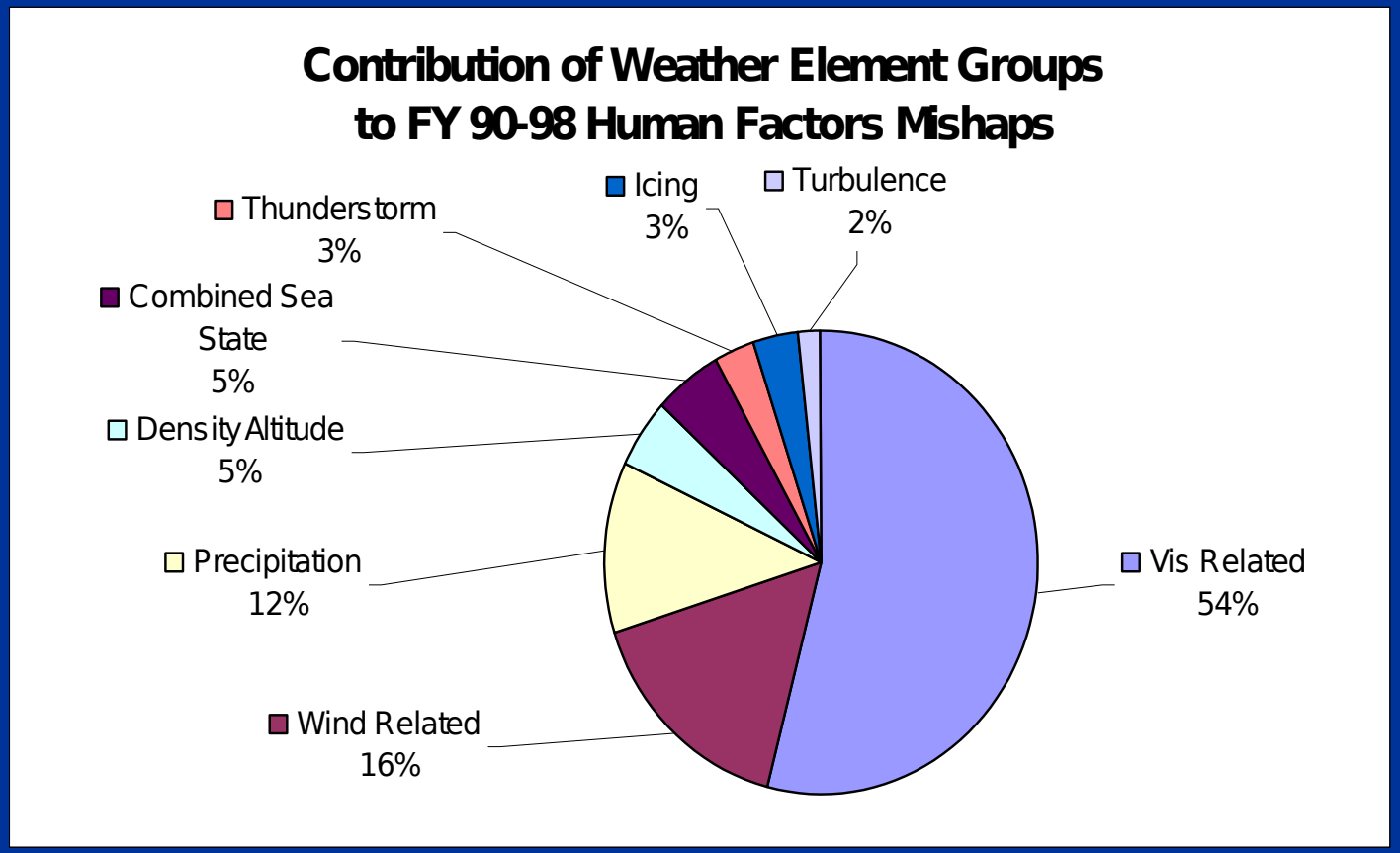
WEATHER RELATED MISHAPS FY90-98

- 12% of the 395 Class A mishaps during FY90-98 were weather related.
- 19% of the 235 human factors mishaps during FY 90-98 were weather related (could have been avoided if weather was properly considered).
- Weather related flight mishaps accounted for 95 deaths and $663 million in damage during FY90-98.
- This amounted to an average of 11 deaths and $74 million in damage per year due to weather related Class A mishaps.

Source: Cantu Thesis - 2001

Contribution of WX Element Groups to Class A Mishaps

Over 50% of all Class A Weather Related Mishaps were due to restricted visibility



Source: Cantu Thesis - 2001

Local Field Minimums for NAS Fallon

When any of the below conditions are met, immediately notify FDO, Tower, Radar, and ODO.

MVFR : Ceiling between 3000FT to 5000FT and/or Visibility is 3-5SM

- VFR: Ceiling 1000FT or greater and/or Visibility at 3SM or greater
- IFR: Ceiling falls below 1000FT and/or VSBY falls below 3SM
- Additional Field Minimums : Ceilings at/below 200FT and/or Visibility is at or below 3/4SM

OPNAV 3140.24E – Warnings Concerning Hazardous or Destructive Weather (5e.)

- Metoc Activities are required to monitor and report local area National Weather Service Weather Bulletins.
- Per 3140.24E, Naval Oceanography Command Activities:
  - Are responsible for the timely dissemination of hazardous or destructive weather warnings via designated area commands and activities as directed by the local area commander.
  - Shall apprise the commands and activities they support of National Weather Service Severe Weather Bulletins affecting local interests.

OPNAV 3710.7T – NATOPS

4.6.3 – Weather Briefing

4.6.3.1 General

Pilots are responsible for being thoroughly familiar with weather conditions for the area in which flight is contemplated. Where NMOC or Marine Corps Weather Services are locally available, a flight weather briefing shall be obtained from a qualified forecaster. Weather briefings may be obtained in person, by phone, by fax or by remoter computer-based weather briefing system (NFWB). If military services are not locally available, an FAA-approved weather briefing from either a Flight Service Station (FSS) or Direct User Access Terminal System (DUATS) may be substituted.

OPNAV 3710.7T – NATOPS

4.6.3 – Weather Briefing

4.6.3.2 Flight Weather Briefing Form

Navy and Marine Corps Forecasters are required to provide flight weather briefings using either DD-175-1 forms, or VFR Certification Stamps when VFR flight is an acceptable alternative. A DD-175-1 shall be completed whenever an IFR flight plan is filed. The forecaster will complete the form for briefings conducted in person, by fax or NFWB. It is the pilot's responsibility to complete the form for briefings conducted by phone. For a VFR flight using a DD-175 form, the following certification stamp on the flight plan may be used in lieu of a completed DD-175-1:

"BRIEFING VOID ___Z, FLIGHT AS PLANNED CAN BE CONDUCTED UNDER VISUAL FLIGHT RULES. VERBAL BRIEFING GIVEN AND HAZARDS EXPLAINED. FOLLOWING SIGMETS ARE KNOWN TO BE CURRENTLY IN EFFECT ALONG PLANNED ROUTE OF FLIGHT."

_____

(Signature of Forecaster)

OPNAV 3710.7T – NATOPS

4.6.3 – Weather Briefing

4.6.3.3 Flight Weather Packet

A flight weather packet, including a HWD chart, may be requested where Navy and Marine Corps weather services are available. Pilots should normally allow a minimum of 2 hours for preparation of the packet. Items provided in the flight weather packet are listed in NAVMETOCCOMINST 3140.14.

OPNAV 3710.7T – NATOPS

4.6.4 – Weather Criteria for Filing.

Flight plans shall be filed based on all the following:

a. The actual weather at the point of departure at the time of clearance.

b. The existing and forecast weather for the entire route of flight

c. Destination and alternate forecasts for a period 1 hour before ETA until 1 hour after ETA.

4.6.4.3 Alternate Airfield.

An alternate airfield is required when the weather at the destination is forecast to be less than 3,000 foot ceiling and 3 statute mile visibility during the period 1 hour before ETA until 1 hour after ETA.

OPNAV 3710.7T – NATOPS

➢ 4.6.4 – Weather Criteria for Filing.

<table>
<tr><th>DESTINATION WEATHER
ETA PLUS AND MINUS 1 HOUR</th><th colspan="3">ALTERNATE WEATHER</th></tr>
<tr><td>0 - 0 up to but not including Published minimums</td><td colspan="3">3,000 - 3 or better</td></tr>
<tr><td rowspan="3">Published minimums up to but not including 3,000 - 3 (single piloted absolute minimums 200 - 1/2)</td><td rowspan="2">NON-PRECISION</td><td colspan="2">PRECISION</td></tr>
<tr><td>ILS</td><td>PAR</td></tr>
<tr><td>*Published minimums plus 300 - 1</td><td>Published minimums plus 200 - 1/2</td><td>*Published minimums plus 200 - 1/2</td></tr>
<tr><td>3,000 - 3 or better</td><td colspan="3">No alternate required</td></tr>
<tr><td colspan="4">* In the case of single-piloted or other aircraft with only one operable UHF/VHF transceiver, radar approach minimums may not be used as the basis for selection of an alternate airfield.</td></tr>
</table>

OPNAV 3710.7T – NATOPS

4.6.4 – Weather Criteria for Filing.

4.6.4.5 Severe Weather Watch Bulletins

The NWS Storm Prediction Center (SPC) issues unscheduled Weather Watch (WW) bulletins as graphical advisories for the Continental United States whenever a high probability exists for severe weather. The Air Force also issues scheduled Military Weather Advisories (MWA) for the same geographical area. Both provide estimates of the potential for convective activity for a specific time period, they are included with all briefings. An Air Force MWA does not constitute a SPC WW.

OPNAV 3710.7T – NATOPS

4.6.4 – Weather Criteria for Filing.

4.6.4.5 Severe Weather Watch Bulletins (cont.)

Except for operational necessity, emergencies, and flights involving all-weather research projects or weather reconnaissance, pilots shall **not** file into or through areas for which the SPC has issued a WW unless one of the following exceptions apply:

a.) Storm development has not progressed as forecast for the planned route. In such situations:

1. VFR filing is permitted if existing and forecast weather for the planned route permits such flights.
2. IFR flight may be permitted if aircraft radar is installed and operative, thus permitting detection and avoidance of **isolated** thunderstorms.
3. IFR flight is permissible in positive control if VMC can be maintained, thus enabling aircraft to detect and avoid **isolated** thunderstorms.

b.) Performance characteristics of the aircraft permit an en route flight altitude above existing or developing sever storms.

OPNAV 3710.7T – NATOPS
(p 43, 4.6.4.5 – Continued)

NOTE: It is not the intent to restrict flights within areas encompassed by or adjacent to a WW area unless storms have actually developed as forecast."

- An Air Force MWA does not constitute a Storm Prediction Center WW.

- A Convective SIGMET, SIGMET or MWA does not prohibit flight. However, these products should be provided with all briefings.

OPNAV 3710.7T – NATOPS (13.1.2.2)

- The following Meteorology topics are required to be covered during annual Instrument Ground Training:

  - The characteristics of air masses, fronts, thunderstorms, microburst, and windshear;

  - Meteorological reports, elements of the DD-175-1, and pilot's responsibility for obtaining a thorough weather brief;

  - Aviation severe weather hazards, to include pilot's responsibility to determine that the route of flight remains clear of aviations severe weather watch areas.

ABC's Of A "WW"

- **WW (Weather WATCH) equates to a Severe Thunderstorm Watch (WS) or a Tornado Watch (WT) issued by the National Weather Service (NWS) Storm Prediction Center (SPC)** located in Norman, Oklahoma.
- **A WW issued by the SPC will appear on the internet as a WS or WT depending on what they are forecasting.** The SPC does this so that the public knows if a WW is for tornados vs. just severe thunderstorms. The SPC will never show "WW" on their web site, however, if you talk to them they do count WS and WT as a WW and track them together.
- WS #882 would be followed by #883 and it would be displayed on their web site as either WS883 or WT883 depending if tornados were forecast.
- A NWS Severe Thunderstorm **Warning** for Fallon is issued by the Reno office. There are no numbers associated with **Warnings**.
- A Convective SIGMET is not a WW.

ABC's Of A "WW"

- OPNAVINST 3710.1S, agrees with the NWS that WW is a WATCH. 3710 states that pilots cannot file into a Severe Weather WATCH (see 4.6.4.5). This would mean that a pilot cannot file into a Severe Weather Watch or a Severe Weather Warning.

- However, the NATOPS Instrument Flight Manual (NAVAIR 00-80T-112) states that WW is a Severe Weather WARNING. According to this pub, a pilot can file into a Severe Weather Watch, but not a Warning.

- The discrepancy between 3710.1S and NAVAIR 00-80T-112 needs to be resolved. NPMOD Fallon OIC believes 3710 is correct and has addressed this issue via mishap endorsement.

Proper reporting and message release procedures for weather-related mishaps and/or accidents.

GUIDANCE
OPNAVINST 3100.6G
NAVMETOCCOMINST 3100.2D
NPMOFSDINST 3100.1M
NPMODFINST 3100.1E
NPMODF SOP 101

- A UNIT SITREP is used by any Commanding Officer, Officer in Charge, or Petty Officer in Charge to provide appropriate operational commanders and higher authority with notification of any incident not meeting OPREP-3 special incident reporting criteria. A UNIT SITREP will be submitted under the following conditions (relevant to aviation):

Proper reporting and message release procedures for weather-related mishaps and/or accidents (Continued)

- Following any weather-related accident/incident involving fleet assets (whether or not NAVMETOCCOM services were provided);

- Following any significant aircraft incident where NAVMETOCCOM might become involved

- Voice reports are not required by OPNAVINST 3100.6G. However, the FDO will notify the OIC, LCPO, and NPMOF Whidbey Island CDO/FDO of all incidents requiring, or potentially requiring, a UNIT SITREP. After the west coast realignment, notification will be directed from NPMOF W.I. to NPMOC San Diego CDO.

Proper reporting and message release procedures for weather-related mishaps and/or accidents (Continued)

Per OPNAVINST 3100.6G, the initial UNIT SITREP message will be sent within 20 minutes of knowledge of the event or incident.

- The initial record message will be followed by subsequent reports to further describe any new information that becomes available.

- Because NPMOD Fallon is a small detachment and tenant to NAS Fallon, some instances of aircraft mishaps will be reported directly by the local host command. Close coordination with the host CDO may be required to clarify individual reporting requirements and prevent duplication. However, ALL REPORTING TIME LINES MUST BE MET. Do not delay for the sake of contacting the host CDO.

- An example UNIT SITREP with appropriate message header can be found in the FDO binder and in NPMODFINST 3100.1E and NPMODF SOP 101.

Procedures for an Aircraft Mishap

GUIDANCE – NPMOD Fallon SOP 101

Upon notification of an aircraft mishap, the duty observer will immediately do the following:

- Take and record a local weather observation.
- Ensure the weather vision (CCTV) is being recorded on the VCR and the VCR is on Ch-5.
- Save the current weather vision PowerPoint Presentation to the "C" drive.
- Electronically save and make Photocopies of all pertinent products listed in SOP 101.

NLMOF JAX FORM 3145/13 (REV 11-01)

NLMOF JACKSONVILLE AIRCRAFT INCIDENT REPORT

LOCAL WEATHER OBSERVATION FOR AIRCRAFT ACCIDENT OR INCIDENT

1. AIRCRAFT INFORMATION:

TYPE: _____SQDN: _____CALL SIGN: _____

2. DATE/TIME (ZULU) OF INCIDENT: _____

3. LOCATION OF INCIDENT: _____

4. DATE/TIME (ZULU) OF OBSERVATION: _____

5. WEATHER PARAMETERS: _____

   a. CEILING: _____

   b. SKY CONDITION: _____

   c. VISIBILITY: _____

   d. WEATHER/OBSTRUCTION TO VISION: _____

   e. SURFACE TEMPERATURE: _____

   f. DEW POINT: _____

   g. WIND DIRECTION: _____

   h. WIND SPEED: _____

   i. ALTIMETER SETTING: _____

   j. PRESSURE ALTITUDE: _____

   k. DENSITY ALTITUDE: _____

l. SEA WATER TEMP (WHERE APPLICABLE): _____

m. WATCHES/WARNINGS IN EFFECT: _____

_____

n. REMARKS: _____

Slide prepared by NLMOF Jacks

From: Operations Officer, NLMOF Jacksonville
To: unit or pilot

Subj: REQUEST FOR WEATHER DATA

Ref: (a) Request for weather at NAS Jacksonville

Encl: (1) Radar Summary

- Per reference (a) the weather information listed below is submitted.
- Weather information for 1500(L) on 7 March 2004 at NAS Jacksonville:
  - Ceiling: 25,000 FT
  - Sky Condition: Broken at 25,000 FT
  - Surface visibility: 7 statute miles (unrestricted)
  - Weather/Obstruction to vision: None
  - Air Temp: 28 C / 82 F
  - Dewpoint: 06 C / 43 F
  - Relative Humidity: 25%
  - Wind direction: 260 degrees
  - Wind speed: 20 knots
  - Wind gust: 28 knots
  - Altimeter: 30.02 inches
  - Pressure Altitude:
  - Density Altitude:
  - SST:
  - Warnings:
  - Additional Weather Information:
    1. Icing: See DD175-1, # 3-210, block 23
    2. Extreme weather: See DD175-1, # 3-210, blocks 22 and 33.
    3. Runway Condition: Dry
- Enclosure (1) displays the current radar summary at the time of incident.
- POC: AGC(AW/SW) R. xxxxx; DSN- 942-2541, ext. 111.

M. xxxxxxxxxx
LT USN

Slide prepared by NLMOF Jacks

Entries on the DD175-1 W/ special emphasis on Flight Hazards

SECTION I (Mission/Takeoff Data): Takeoff data, ***local weather warnings or MET watch advisory information SHALL be entered***. Runway temperature, dewpoint, temperature deviation, PA and DA values are not mandatory unless the pilot receiving the brief specifically requests it.

SECTION II (Enroute Data): Applies to conditions within 25 NM either side of intended flight route.

NOTE: Any WW's/Sigmets/Airmets or similarly issued warnings and advisories in effect along the proposed route of flight SHALL be entered in the section IV remarks and described to the pilot receiving the brief.
IF warnings are issued after the initial brief and prior to ETD, forecasters should make every effort to notify the air crew.

NR, unless requested or for Helo flights

FLIGHT WEATHER BRIEFING

PART I - MISSION / TAKEOFF DATA

1. DATE(yymmdd)	2. ACFT TYPE/NO.	3. DEP PT/ETD (UTC)	4. RNWY TEMP	5. DEW PT	6. TEMP DEV	7. PRES ALT FT	8. DENSITY ALT FT
030618	P3C/LN456	KNIP 1300	NR	NR	NR	NR	NR

9. SFC WIND	10. CLIMB WINDS	11. LOCAL WEA WARNINGS/ADVISORY	12. RCR
16005	21015	T2 SET TIL 19Z	N/A

13. REMARKS/TAKEOFF ALTN FCST
KNIP-KNUW

5 digit Fcst Winds for climb. Enter the mean wind speed/direction up to FLV.

List unusual conditions that might affect a/c durg t/o or climb not indicated elsewhere on the form. List point of departure and all legs of flight.

Runway Conditions recording: N/A unless specifically requested. Refer to Base Air Operations for determination of braking conditions.

of t/o or climb. Or "None"

Enter FLV in hundreds of feet MSL.

Enter as many increments of wind/temp necessary. “See Folder #???” or “OPARS” are only authorized when Flight folders or OPARS accompany the brief.

Enter location and forecas minimum ceiling alg route flight in hundreds of feet

Enter forecast maximum tops significant clouds (excluding thunderstorms) along intende route of flight in MSL.

Minimum freezing level in hundreds of feet above MSL and location.

14. FLT LEVEL	15. FLT L
260	18010

16. CLOUDS AT FLT LEVEL					17. MINIMUM V										O
	YES		NO		N AND OUT		SMOKE		DUST		HAZE		FOG		PRECIPITA	✓	NO OBSTRUCTION

18. MINIMUM CEILING	LOCATION	19. MAXIMUM CLOUDS TOPS	LOCATION	20. MINIMUM FREEZING LEVEL	LOCATION
010 FT AGL	WA	350 FT MSL	GA-TN; IA/SD	120 FT MSL	WA

21. THUNDERSTORMS				22. TURBULENCE			23. ICING				24. PRECIPITATION					
MWA/WW NO.				CAT ADVISORY		NONE	NONE ✓				NONE ✓					
	NONE	X	AREA		LINE		NONE	IN CLEAR	IN CLOUD		RIME	MIXED	CLEAR		DRIZ	RAIN	SNOW	SLEET
X	ISOLATED 1 -2%		450	LIGHT		X	X	TRACE				LT				
	FEW 3 - 15%			MOD				LIGHT				MOD				
	SCATTERED 16 - 45%			SVR				MOD				HVY				
	NUMEROUS - > 45%			EXTREME				SVR				SHWRS				
												FRZG				

HAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIPITATION, LIGHTNING & WIND SHEAR EXPECTED IN AND NEAR THUNDERSTORMS.	LEVELS SFC-090 220-310	LEVELS	LOCATION
LOCATION FL-TN; IA-W.WA	LOCATION WA	LOCATION	

Slide prepared by NLMOF Jacks

Entries on the DD175-1 W/ special emphasis on Flight Hazards (Continued)

Thunderstorms: Pilots SHALL be made aware of all thunderstorm activity along the intended route of flight, regardless of the aircrafts flight level. The following procedures SHALL be followed when completing the Thunderstorm section of the 175-1:

- MWA,WW No: Enter the WW/Convective SIGMET/MWA number when appropriate.
- NONE: Checked only when NO thunderstorm is forecast along flight path
- AREA: Checked when the thunderstorm activity will be of an air mass variety or will occur in clusters
- LINE: Checked when thunderstorm activity will form a line
- COVERAGE: Ranges from ISOLATED to NUMEROUS. Mark appropriate box with height of MAX CLD TOPS (MSL)
- LOCATION: Use geographic reference, Station Identifiers, or LAT/LONG

NOTE: Turbulence, Icing, and Precipitation are entered when NOT Associated with a Thunderstorm

Block 21 – Thunderstorms

- Pilots shall be made aware of all TSTM activity alg intended route of flight regardless of A/C FLV.
- **For Convective SIGMETS.** Write "SIGMET" and the number assigned to the specific Convective SIGMET which is affecting the route of

21. THUNDERSTORMS					
MWA/WW NO.	**SIGMET 34E**				
	NONE	X	AREA		LINE
X	ISOLATED 1 -2%				450
	FEW 3 - 15%				
	SCATTERED 16 - 45%				
	NUMEROUS - > 45%				

- **For Weather Watch (WW's).** Write the number assigned to the specific Weather Watch ("WW") which is affecting the route of flight (i.e., WW 284). Do not use "WT" or "WS" on the DD175-1 since it is not a standard identifier for Severe Weather referenced in the General

PART IV - COMMENTS/REMARKS

31. BRIEFED ON LATEST RCR FOR DEST AND ALTN		YES	✓	NOT AVAILABLE	32. REQUEST PIREP AT	NIP 343.5

33. REMARKS: **SEVERE WEATHER ENROUTE:** WW #284 ERN AND SRN NC CNTRL SRN SC & CSTL WTRS VT 12Z-15Z. HAIL 2", GSTS 55 KT(ALSO, ANY OTHER SIGNIFICANT INFO RELATED TO THE FLIGHT)

PART V - BRIEFING RECORD

34. WEA BRIEFED	35. FLIMSY BRIEFING NO.	36. FORECASTER'S SIGNATURE OR INITIALS
1052	6 – 1,623	MR. MILLER

37. VOID TIME	38. EXTENDED TO	39. WEA REBRIEFED AT	40. FORECASTER'S INIT	41. NAME OF PERSON RECEIVING BRIEFING
1322				TWENTER. K LT

DD Form 175-1 Generated by NFWB 4.2

Slide prepared by NLMOF Jacks

Weather Terminology!

BACKGROUND

COMNAVMETOCINST 3140.14D prescribes procedures for entering weather data and forecasts on the DD-175-1. Severe Weather includes Weather Watches (WW), SIGMETS (WS), and Convective SIGMETS (WST). The definition for these National Weather Service (NWS) standard identifiers are as follows:

"WS" is the standard identifier for ALL SIGMETS

•**SIGMET** – (**SIG**nificant **MET**eorology Information) - advises of weather potentially hazardous to all aircraft **other than convective activity.**
•Two types of SIGMETS:

1. **Domestic SIGMET(WS)** – which refers to
•Severe icing
•Severe or extreme turbulence
•Duststorms and sandstorms lwrg vsby to <3 mi
•Volcanic Ash
(Example - Romeo 2)

2. **Convective SIGMET(WST)** – which refers to
•Line of thunderstorms
•Isolated severe thunderstorm w/winds > or = 50 knots
hail > or = to 3/4 inches
•Tornadoes
•Embedded thunderstorms
(Example - 34E)

*The NWS distinguishes **Convective SIGMETS** from **Domestic SIGMETS** with the suffix. The Alpha-Numeric suffix is for **Convective SIGMETs** and Phonetic followed by a number is for **Domestic SIGMETs**.

"WA" is the standard identifier for ALL AIRMETS

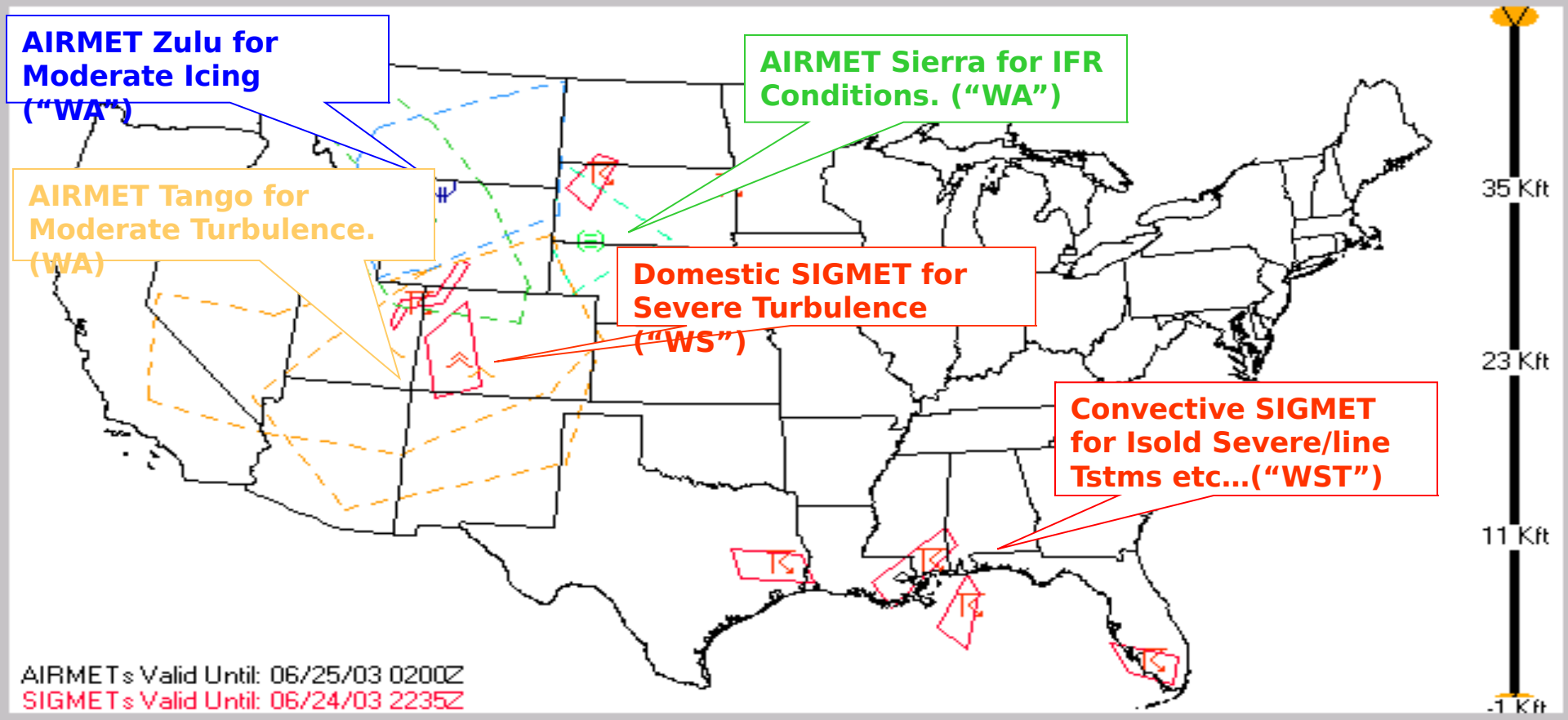
•**AIGMET** – (**AIR**man's **MET**eorology Information) - advises of weather that maybe hazardous, **other than convective activity**, to single engine, other light aircraft, and Visual Flight Rule (VFR) pilots.
•Three types of AIRMETS:

1. **AIRMET Tango(Turbulence)**: which refers to
•Moderate turbulence
•Low Level Wind Shear
•Sustained winds of 30 or greater at the surface

2. **AIRMET Sierra(IFR):** which refers to
•IFR conditions (Ceilings less than 1000 ft and/or visibility less
than 3 miles affecting over 50% of the area at one time)
•Extensive Mountain Obscuration.

3. **AIRMET Zulu(Icing):** which refers to
•Moderate Icing
•Freezing Levels

Slide prepared by NLMOF Jacks


AIRMET Zulu for Moderate Icing ("WA")
AIRMET Sierra for IFR Conditions. ("WA")
AIRMET Tango for Moderate Turbulence. (WA)
Domestic SIGMET for Severe Turbulence ("WS")
Convective SIGMET for Isold Severe/line Tstms etc...("WST")
35 Kft
23 Kft
11 Kft
-1 Kft
AIRMETs Valid Until: 06/25/03 0200Z
SIGMETs Valid Until: 06/24/03 2235Z

Map:

Overview...

Reset

Un-zoom

Data:

Heights

Auto Update

Pointer At: (Lat / Lon)

36.707 / -101.881

Data Types:

- [x] Airmets
  - [x] Icing
  - [x] Turbulence
  - [x] Mtn Obscn
  - [x] IFR
- [x] Sigmets
  - [x] Icing
  - [x] Turbulence
  - [x] Convection

Overlays:

- [ ] VORs
- [ ] ARTCC Boundaries
- [ ] Counties
- [ ] Highways
- [ ] Rivers

Observations: 14 Loaded, 14 Displayed

Altitude Range Shown: -1000 ft. to 45000 ft. (Change using bar at right.)

Slide prepared by NLMOF Jacks

Blue for Severe Thunderstorm Watch (WS)
Red for Tornado Watch (WT).
"WS" and "WT" with the
AT NO TIME WILL WS OR WT BE ENTERED
ANYWHERE ON THE DD175-1 ALL REFEREN
TO THESE WILL BE ANOTATED AS A WW
WS547 1705 UTC 6/20 - 0000 UTC 6/21
WS548 1805 UTC 6/20 - 0200 UTC 6/21
WS549 1830 UTC 6/20 - 0200 UTC 6/21
WT550 1845 UTC 6/20 - 0200 UTC 6/21
Tornado Watch
Severe Thunderstorm Watch

Current watches issued by the SPC

Slide prepared by NLMOF Jacks

PART IV - COMMENTS/REMARKS

31. BRIEFED ON LATEST RCR FOR DEST AND ALTN		YES	✓	NOT AVAILABLE	32. REQUEST PIREP AT	NIP 343.5

33. REMARKS: AIRMET TANGO: TEX-OKC LGT IN CLR/IN CLOUD TURB BTWN FL220-310 DUE TO WND SHEAR ASSOCD W/JSTM.(IF YOU CAN'T FIT A DESCRIPTION, ENSURE YOU LIST LOCATION AND VT)

PART V - BRIEFING RECORD

34. WEA BRIEFED	35. FLIMSY BRIEFING NO.	36. FORECASTER'S SIGNATURE OR INITIALS
1052	6 – 1,623	AGC(SW) BROOKS

37. VOID TIME	38. EXTENDED TO	39. WEA REBRIEFED AT	40. FORECASTER'S INIT	41. NAME OF PERSON RECEIVING BRIEFING
1322				TWENTER. K LT

DD Form 175-1 Generated by NFWB 4.2

Entries on the DD175-1 W/ special emphasis on Flight Hazards (Continued)

SECTION III (Terminal Forecast): Enter the forecast conditions at the ultimate destination, intermediate stops and alternates as required.

SECTION IV (Comments / Remarks): Use this section to cover any other significant weather information not described elsewhere on the DD175-1. ***Including but not limited to amplifying information / recommendations concerning severe weather conditions.***

Section V (Briefing Record): This section completes the DD175-1 as a legal document. All pertinent information should be filled in to identify the brief date/time, the briefer, and the pilot.

REQUIRES ALTERNATE WEATHER

PART III - TERMINAL FORECASTS					
25. AIRDROME	26. CLOUD LAYERS	27. VSBY/WEA	28. SFC WIND	29. ALTIMETER	30 VALID TIME
DEST/ALTN NBC	BKN030 BKN180	7	19010G17	2992 INS	1630 Z TO 1830 Z
DEST/ALTN TEMPO	BKN015CB BKN080 OVC250	2 SHRA		INS	Z TO Z
DEST/ALTN CHA	SCT015 BKN035 OVC250	7	17012G15	2993 INS	1645 Z TO 1845 Z
DEST/ALTN				INS	Z TO Z
DEST/ALTN				INS	Z TO Z
DEST/ALTN				INS	Z TO Z
DEST/ALTN				INS	Z TO Z
DEST/ALTN				INS	Z TO Z

OPNAVINST 3710.7T
Alternate Weather requires 3000/3 or better!

This only applies if the destination location is forecasting Cig/Vis at or below minimums. Then the alternate must be better than 3000/3. If the destination location is forecasting less than 3000/3 but better than their minimums, then the alternate only needs to be better than their wx minimums.

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PART IV - COMMENTS/REMARKS						
31. BRIEFED ON LATEST RCR FOR DEST AND ALTN		YES	✓	NOT AVAILABLE	32. REQUEST PIREP AT	NIP 343.5
33. REMARKS:						

WHATEVER YOU FEEL IS SIGNIFICANT TO THE FLIGHT!!

Self Explanatory

Don't forget to log the NFWB # on the log sheet.

PART V - BRIEFING RECORD				
34. WEA BRIEFED 1052	35. FLIMSY BRIEFING NO. 6 – 1,623	36. FORECASTER'S SIGNATURE OR INITIALS AGC(SW) BROOKS		
37. VOID TIME 1322	38. EXTENDED TO	39. WEA REBRIEFED AT	40. FORECASTER'S INIT	41. NAME OF PERSON RECEIVING BRIEFING TWENTER. K LT

Brief within 2 hrs ETD, Void Time no to exceed ETD + 1 hr.

Enter Updated void time, subject to same limitations as original void time. Unlimited extensions.

Self Explanatory.

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Severe Weather Aviation Mishap Case Study

Naval Atlantic Meteorology and Oceanography Facility, Jacksonville, FL

https://jax.weather.navy.mil/

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- **09 MAY 03, CDO RECEIVED A DD 175-1 REQUEST FROM TWO T-38 AIRCRAFT.**

- **FCSTR COMPLETED DD 175-1 & FAXED IT**

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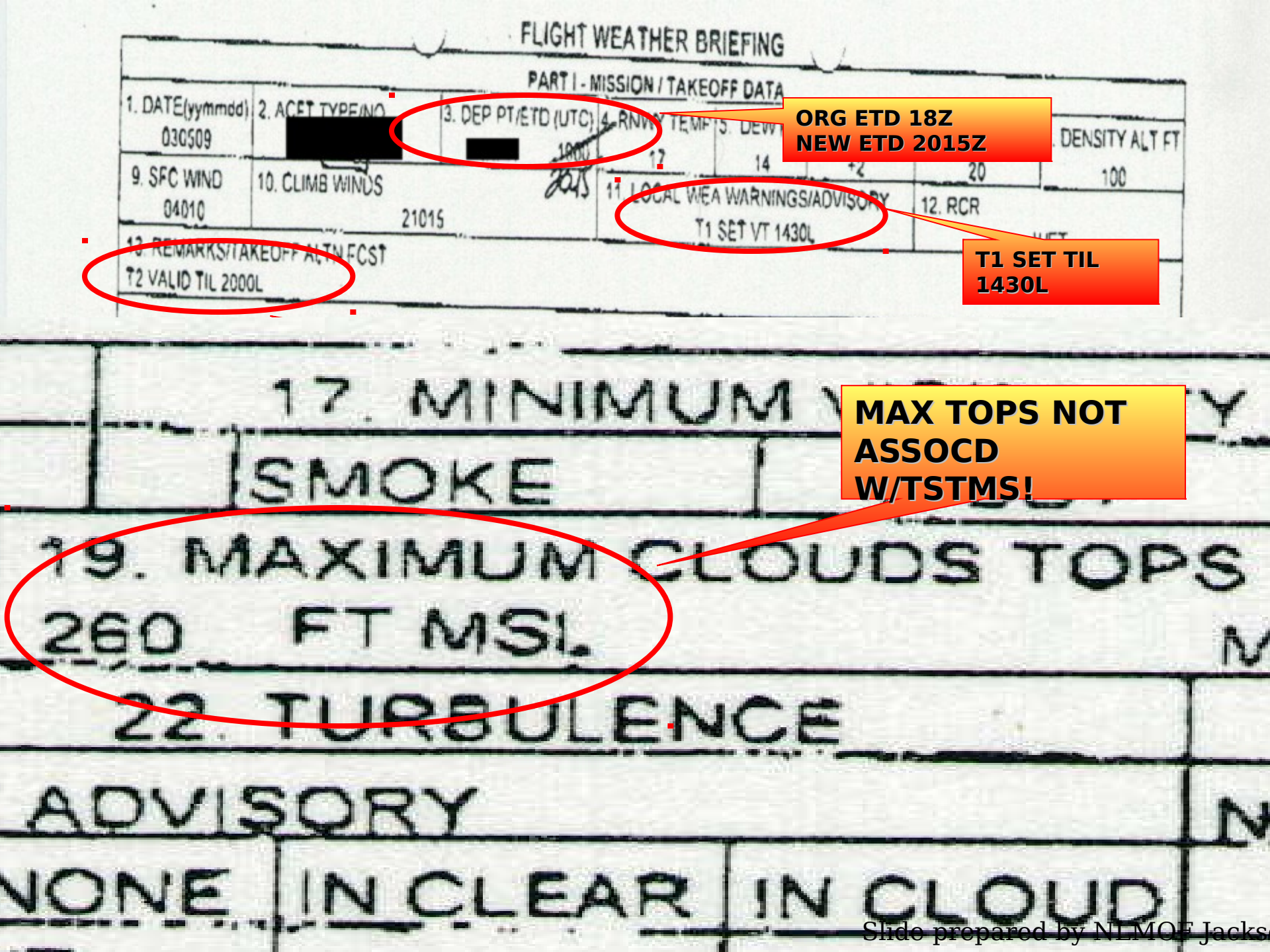
FLIGHT WEATHER BRIEFING
PART I - MISSION / TAKEOFF DATA
1. DATE(yymmdd)
030509
2. ACFT TYPE/NO
3. DEP PT/ETD (UTC)
4. RNWY TEMP
5. DEW
DENSITY ALT FT
17
14
+2
20
100
9. SFC WIND
04010
10. CLIMB WINDS
21015
11. LOCAL WEA WARNINGS/ADVISORY
T1 SET VT 1430L
12. RCR
13. REMARKS/TAKEOFF ALTN FCST
T2 VALID TIL 2000L
ORG ETD 18Z
NEW ETD 2015Z
T1 SET TIL
1430L
17. MINIMUM
SMOKE
MAX TOPS NOT
ASSOCD
W/TSTMS!
19. MAXIMUM CLOUDS TOPS
260 FT MSL
22. TURBULENCE
ADVISORY
NONE
IN CLEAR
IN CLOUD

16. CLOUDS AT FLT LEVEL

YES | NO

18. MINIMUM CEILING

003 FT AGL

21. THUNDERSTORMS

MWAAWW NO: WT317 VALID FOR

NONE

**"WT" NOT AUTHORIZED FOR USE ON DD 175-1.
NO VALID TIME ANNOTATED!**

NATOPS AND CNMOC 3140.14D, REQUIRE AMPLIFICATION ON ALL WW/SIGMET/AIRMETS IN THIS BLOCK!

PART IV - COMMENTS/REMARK

31. BRIEFED ON LATEST RCR FOR DEST AND ALTN | YES ✓ | NOT AVAILABLE

33. REMARKS METAR KNIP 0917552 19004KT 6SM HZ SCT030 SCT200 33/21 A3007 RM

SVR WX ENROUTE

PART V

34. WEA BRIEFED	35. FLIMSY BRIEFING NO.	36. FORECASTER'S SI
1851	5 — 120	

37. VOID TIME	38. EXTENDED TO	39. WEA REBRIEFED AT	40. FOR
1930	2115	2000	

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Page 1 of 1

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FORECASTER

- **VIOLATED THE 3710.7S AND CNMOC 3140.14D**
- **USED NON-STANDARD TERMINOLOGY “WT” TO DESCRIBE A “WW BULLETIN.**
- **NEVER IDENTIFIED “WT” AS A “WW” AT [illegible] FAX NOR VERBALLY.**
- **DID NOT ELABORATE/AM[illegible] THE SPECIFICS OF THE WEATHER WATCH(WW)**

AIRCREW

- **FAILED TO CONDUCT ADEQUATE PREFLIGHT WX PLANNING**
- **AIRCREW FIXATED ON LOCAL WX CONDITIONS**
- **DID NOT SEEK CLARIFICATION OF “WT”, ASSUMED IT TO BE A MWA**
- **FILED THROUGH A “WW”, VIOLATING 3710.7S**

DAMAGE AND COSTS.

AIRCRAFT #1 $336,289.62

AIRCRAFT #2 $330,375.02

TOTAL: $666,664.64

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Block 21 – Thunderstorms

- Pilots shall be made aware of all TSTM activity alg intended route of flight regardless of A/C FLV.
- **For Convective SIGMETS.** Write "SIGMET" and the number assigned to the specific Convective SIGMET which is affecting the route of

21. THUNDERSTORMS					
MWA/WW NO.	**SIGMET 34E**				
	NONE	X	AREA		LINE
X	ISOLATED 1 -2%				450
	FEW 3 - 15%				
	SCATTERED 16 - 45%				
	NUMEROUS - > 45%				

- **For Weather Watch (WW's).** Write the number assigned to the specific Weather Watch ("WW") which is affecting the route of flight (i.e., WW 284). Do not use "WT" or "WS" on the DD175-1 since it is not a standard identifier for Severe Weather referenced in the General

PART IV - COMMENTS/REMARKS

31. BRIEFED ON LATEST RCR FOR DEST AND ALTN		YES	✓	NOT AVAILABLE	32. REQUEST PIREP AT	NIP 343.5

33. REMARKS: **SEVERE WEATHER ENROUTE:** WW #284 ERN AND SRN NC CNTRL
SRN SC & CSTL WTRS VT 12Z-15Z. HAIL 2", GSTS 55 KT
(ALSO, ANY OTHER SIGNIFICANT INFO RELATED TO THE FLIGHT)

PART V - BRIEFING RECORD

34. WEA BRIEFED	35. FLIMSY BRIEFING NO.	36. FORECASTER'S SIGNATURE OR INITIALS
1052	6 – 1,623	AGC(SW) xxxx

37. VOID TIME	38. EXTENDED TO	39. WEA REBRIEFED AT	40. FORECASTER'S INIT	41. NAME OF PERSON RECEIVING BRIEFING
1322				TWENTER. K LT

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Data Sources to Support Aviation Weather and Hazards

Internet Resources for Weather Advisories, Watches, and Warnings

- Storm Prediction Center (SPC): Issues Severe Weather **Watches** (WW) for CONUS. **www.spc.noaa.gov**

- Regional NWS: Issues Severe Weather **Warnings** for the local area of responsibility. For NAS Fallon, Reno NWS is cognizant weather guard. Can be accessed via SPC link.

- Aviation Digital Data Service: A plethora of aviation weather data. Specifically, automatically updates AIRMETS and SIGMETS for CONUS. **adds.aviationweather.gov**

Data Sources to Support Aviation Weather and Hazards (Continued)

Other Recourses for Weather Advisories, Watches, and Warnings

- Weather Radio: Sony IFC-C153V with standby weather alert mode monitoring weather 24/7. Emits an audible tone upon the first issuance of any weather alert from the regional NWS located in Reno. Red LED light will remain flashing until the alert button is depressed and the warning is heard.

- INTERWARN Software: Currently being tested for functionality at Fallon. Runs silently in the background and emits an audible and visual alarm within 3 seconds of any pre-programmed NWS text message issuance. Same principle as SAND and COMEDS but links directly to NWS network via Internet (no cost for service).

- Weather Channel: When severe weather is forecast to occur, monitor the weather channel for updates to NWS weather bulletins.

Put It In Writing

- All NAVMETOCCOM activities providing aviation weather support are directed to have written local procedures for monitoring and disseminating the National Weather Service for Severe Weather Bulletins.

- Guidance should specifically address forecaster/watch requirements coving how often monitoring should occur and what tools should be utilized. At a minimum CONUS activities SHALL monitor www.spc.noaa.gov and adds.aviationweather.gov

- Guidance should be dictated in the form of local SOP (mandatory per CNMOC) and Forecaster's Handbooks (strongly recommended).

- Requirement for written guidance comes form CNMOC msg dtd May 2004, Subj: AVIATION WEATHER SUPPORT SAFETY REVIEW and OPNAV 3140.21E.

QUESTIONS?